Thomas Moore
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Technical Skills Semantic Analysis and Computational Models, Agent-based Systems, Artificial Intelligence, Genetic Algorithms and Evolutionary Computation, Object Oriented Systems Design; Patterns Based Software Design; XP/Agile Software Development; Object/Relational Mapping; Relational Database Development, Enterprise Application Integration (EAI), Business Intelligence (BI)

Technologies C# 3.0, 3.5, .NET, VB, ASP, Java 6; Hibernate; SQL; C++; Perl; Oracle; Sybase; MySQL; JDBC; UML, HTML, CSS; Linux; Solaris/SunOS; HPUX; AIX; Windows 98/2000/XP

Work History

October 2009-Present **Consultant – Complexity Theory**
Sandia National Laboratories
Designed and co-developed agent-based simulation software for the analysis of robustness in public health systems against threats ranging from natural disasters to evolving population health profiles and epidemics. Analysis included multilevel selection characteristics and response to functional shapes of perturbations. Designed and co-developed simulation software for analyzing tobacco-related behaviors in social networks using opinion dynamics and social network analysis.

Apr– October 2009 **Senior Software Engineer**
ASRC
Designed, developed, and maintained software for USAF satellite program using Visual Basic, C#, .NET technologies. Software included the integration of data from diverse array of hardware sources, data fusion.

2001-Present **Founder/CEO**
Original Synth

Started company to perform consulting services and produce agent based software. Current research includes semantic based document and project management, discovery and exploitation of dynamic structures in N-dimensional spaces, adaptive agents, and complexity theory.

Software written in C#/.NET and Java

2005 – 2007 **Senior Architect/Developer**
Biological Computation
McGraw Software

Designed agent based artificial intelligence framework for next generation application integration software. Assisted in design of semantic infrastructure exploitation capabilities using set theoretic/spatial metric approach. Design centered around complex adaptive systems theory employing biological metaphors (including organizational and evolutionary characteristics) to achieve intelligent emergent behavior from a micro-agent architecture. The model was designed to integrate US Army Next Generation modeling, simulation, and testing frameworks using a multidimensional semantic approach integrating fractal theory.

2003 – 2005 **Senior Consultant**
STEC Program, Kirtland AFB

Designed and developed large scale software for the integration of multiple satellite control systems and mission planning applications. Introduced Agile techniques, including unit, integration, functional, and acceptance test framework.

2002 – 2004 **PhD Student, Computer Science Department**
University of New Mexico

Studies included complex adaptive systems, evolutionary biology, biochemistry, software design, and functional programming techniques. Projects include development of stochastic algorithm for the simulation of biochemical networks and analysis of network architecture on input/output mapping functions (work done at the Santa Fe Institute).

2001-2002 **Project Lead, Consultant**
Thinking Pictures

Design and development of distributed application for cataloging and publishing digital media, and for synchronizing presentations across multiple screens. Design and development of environmental interaction by screens using several embedded devices including sonic sensors and digital card readers. Technologies included Java, C/C++, Perl, Unix and Windows system programming.

1999-2001 **Lead Developer**
Double Agent, Inc

Developed Java based backend logic for data analysis and web site navigation. Introduced XP programming techniques, developed project management software.

1997-1999 **Lead Systems Engineer**
AppNet/i33

Managed full lifecycle development of large scale website (http://www.ethanallen.com). Introduced XP methodology, Patterns-oriented software development. Technologies included Java, Oracle, Apache, Linux, object/relational mapping engine with write-through caching algorithms.

1995-1997 **Software Engineer**
Alcatel/Celwave

Designed and developed multiple interacting systems for next generation intranet, including hardware engineering workflow software, ISO 9000 digital library, customer and sales management, and personnel management. Technologies included server-side and applet based Java, Perl, CGI, Solaris, Sybase.

Invited Presentations

VAMOOSE: Veterans Affairs Modeling Object Oriented Simulation Environment. CEMPER, Baltimore MD, 2010

A Complex Adaptive Systems Modeling Framework for Public Health Action. Modeling for Public Health Action, Atlanta GA, 2010

A Network-Based Public Health System Simulation Environment for Policy Evaluation. International Conference on Complex Systems, Quincy MA, 2011

Extending Opinion Dynamics to Model Public Health Problems and the Evaluation of Policy Interventions. International Conference on Complex Systems, Quincy MA, 2011

Education	**Computer Science** **University of New Mexico** 2002-2005 PhD Level Study **Computer Science** **Rutgers University** 1994 − 1997 **Political Science/History** **SUNY Stony Brook** B.A. 1991
Research Interests	Theoretical biology; automated trading algorithms; complex adaptive systems; simulation and artificial life; evolutionary systems; patterns-based software development; Agile software development techniques
Associations	Founder, Central Jersey Patterns Group; Artificial Life, ACM; IEEE